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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,262	08/26/2003	Brian Harden	280/016 DC	2074

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EXAMINER

VARGOT, MATHIEU D

ART UNIT	PAPER NUMBER
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1742

MAIL DATE	DELIVERY MODE
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10/14/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/647,262	Applicant(s) HARDEN ET AL.	
	Examiner Mathieu D. Vargot	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-30,41-46,51,52,61,62 and 65-70 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-30,41-46,51,52,61,62 and 65-70 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. Upon an update of the search, new art has been found which requires a reopening of the prosecution of the case.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15-23, 27-30, 41-46, 51, 52, 61, 62 and 65-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris et al (see col. 4, line 60 through col. 5, line 16; Figs. 1-3; col. 4, lines 20-35) in view of Chou -905 (see col. 4, line 50 through col. 5, line 14; Fig. 9).

Harris et al discloses the basic claimed method for making a plurality of optical elements on a substrate lacking at best the aspects that a plurality of elements would be formed at one time in an imprintable material, that the elements are formed on a wafer level and that the master/mold is not removed until after the replica has hardened. Note that the disclosure of Harris et al at the passage bridging columns 4 and 5 noted supra is being relied upon for the imprinting embodiment. Since Harris et al (see col. 2, lines 53-61) makes a plurality of optical elements lithographically, it would only make sense and be obvious to do the same when making the elements using an imprinted material, such being conventional anyway in order to reduce cycle time for forming the individual elements. Also, Harris et al forms the elements on a substrate that would be inclusive of a wafer, although the primary reference does not explicitly call it such. Chou -905 discloses imprinting a resist on a wafer and heating the resist material until softened,

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impressing a pattern with a mold and then removing the mold once the patterned material has hardened. While Chou -905 subsequently etches the resist, the reference is being relied upon to teach employing a wafer and retaining the mold thereon until the imprinted material has hardened, such being rather conventional in the art at any rate. It would have been obvious to one of ordinary skill in the art at the time of invention to have removed the mold after the replica has hardened in Harris et al as generally taught by Chou -905 to ensure that the imprinted material is patterned as desired. Again, it is submitted that this is rather conventional in the art and is fairly common practice when a material to be imprinted is softened to allow the imprinting—the mold stays on the material until the material has hardened to the extent that the mold can be removed. Placing the material on the mold rather than the substrate would have been an obvious expedient dependent on the state and nature of the material to be imprinted. Adhesion promoters are well known in the art and would have been obvious materials to use to ensure that the imprinted material remains on the substrate. Chou -905 (Fig. 9) teaches fiducial marks on the substrate (68) that are aligned to marks (64) on the mold so that the two are properly aligned. Harris et al (col. 5, lines 13-16) teaches applying antireflective coatings on the optical element and the exact placement of these coatings would have been obvious dependent on the exact nature of the optical elements. Chou -905 teaches selective lithographic removal or adding of structures—see col. 5, lines 49-60—and it would have been obvious to employ such deposition/removal at whatever stage in the process deemed necessary. Harris et al teaches (col. 4, line 27) the aspect of tacking together two parts that will be joined at least for some amount of time and

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such is considered to be well known and obvious in the art. I.e., such a tacking together of a mold and a substrate with an imprintable material thereon would have been obvious thereover to ensure that the two parts maintain their exact relationship to each other. Note that Chou -905 (see 62 in Fig. 9) confirms the alignment between substrate and mold in what would be inclusive of a “mask aligner”. It would have been obvious to remove the substrate and mold from the “mask aligner” after the tacking and hardening. The aspect of the mold coming into contact with the substrate at first a certain portion—center or edges—and then in complete contact with the substrate would have been obvious dependent on the planarity of the substrate, given that the mold is substantially planar. The creation of optical lithographs on the opposite side of where the replicas are formed would have been obvious to make more complicated optoelectronic assemblies that are quite well known in the art. Instant claims 67-70 are shown in Harris et al—see Fig. 3.

3. Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris et al (see col. 4, line 60 through col. 5, line 16; Figs. 1-3; col. 4, lines 20-35) in view of Chou -905 (see col. 4, line 50 through col. 5, line 14; Fig. 9) and further in view of Napoli et al (see col. 2, lines 42-44).

Harris et al and Chou -905 are applied for reasons of record as set forth in paragraph 2, supra, the references disclosing the basic claimed method lacking essentially the aspect of imprinting on both sides of the substrate. Napoli et al teaches this and such would have been obvious dependent on the exact nature of the optical element made and its use.

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4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mathieu D. Vargot whose telephone number is 571 272-1211. The examiner can normally be reached on Mon-Fri from 9 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson, can be reached on 571 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://portal.uspto.gov/external/portal>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. Vargot
October 11, 2010

/Mathieu D. Vargot/
Primary Examiner, Art Unit 1742